

We claim as our invention:

- 1 1) A solenoid-based propulsion system comprising:
  - 2 A) at least one multiple wire coil set solenoid;
  - 3 B) a magnetic object, at least a portion of which reciprocally moves
  - 4 within the multiple wire coil set solenoid; and
  - 5 D) an energizing control system connected to multiple wire coil sets of
  - 6 the solenoid that controls the dwell angle for each wire coil set.
- 1 2) A solenoid-based propulsion system of claim 1 wherein the dwell angle for each
- 2 wire coil set of the multiple wire coil set solenoid is adjustable.
- 1 3) A solenoid-based propulsion system of claim 1 wherein the dwell angles are
- 2 different for each wire coil set of a multiple wire coil set solenoid.
- 1 4) A solenoid-based propulsion system of claim 1 wherein the energy control system
- 2 is comprised of an electronic timer to coordinate the energizing of the wire coil
- 3 sets.
- 1 5) A solenoid-based propulsion system of claim 1, wherein the energizing control
- 2 system skip energizes selected wire coil sets at selected times
- 1 6) A solenoid-based propulsion system of claim 1, wherein the multiple wire coil set
- 2 solenoid has an opened ended tube through which the magnetic object will be
- 3 unilaterally and completely propelled out of tube when all the wire coil sets are
- 4 de-energized.
- 1 7) A solenoid-based propulsion system of claim 6, wherein the wire coil set closest
- 2 to the open end of the tube is the last to be de-energized.
- 1 8) A solenoid-based propulsion system of claim 1 wherein the one multiple wire coil
- 2 set solenoid contains a centering magnet.
- 1 9) A solenoid-based propulsion system of claim 1 wherein the energizing control
- 2 system is comprised of an audio signal generator that energizes the wire coil sets.
- 1 10) A solenoid-based propulsion system comprising:
  - 2 A) at least one tube with an exterior and an interior;
  - 3 B) multiple wire coil sets wrapped around the exterior of the tube;
  - 4 C) a magnetic object which reciprocally moves within at least a portion of
  - 5 the interior of the tube; and

- 6 D) an energy control system connected to wire coil sets of the multiple  
7 wire coil set solenoid that skip energizes select wire coil sets at  
8 selected times.
- 1 11) A solenoid-based propulsion system of claim 1, wherein the energy control  
2 system controls the dwell angle of energized wire coil sets.
- 1 12) A solenoid-based propulsion system of claim 1, wherein the energy control  
2 system is further comprised of an audio signal generator that energizes the wire  
3 coil sets.
- 1 13) A solenoid-based propulsion system of claim 1, wherein water and air tight  
2 compartments contain the energizing control system and wire coil sets while the  
3 interior of the tube and the magnetic object connected to a conversion mechanism  
4 are vented to the outside atmosphere.
- 1 14) A methodology for operating a solenoid-based propulsion system comprising:  
2 A) placing an magnetic object inside an open ended tube that has at least  
3 one multiple wire coil solenoid wrapped around it exterior;  
4 B) centering the magnetic object within the midpoint of its reciprocal  
5 movement  
6 C) alternatively energizing the wire coil sets of the multiple wire coil  
7 solenoid;  
8 C) reciprocally moving the magnetic object in a reciprocal movement.
- 1 15) A methodology for solenoid-based propulsion of claim 15 wherein the additional  
2 step of activating the trigger switch unilaterally propels the magnetic object out of  
3 the open end of the tube.
- 1 16) A methodology for solenoid-based propulsion of claim 15 wherein activating of a  
2 trigger switch that stops the reciprocal movement of the magnetic object to  
3 unilaterally propel the magnetic object totally out through the muzzle of the tube.
- 4 17) A methodology for solenoid-based propulsion of claim 14 wherein the additional  
5 step of activating a frequency signal generator
- 1 18) A methodology for solenoid-based propulsion of claim 14 wherein the additional  
2 step is adjusting the propulsion magnet.

- 1 19) A methodology for solenoid-based propulsion of claim 15 wherein the additional
- 2 step is adjusting the dwell angles for the wire coil sets.
- 3 20) A methodology for solenoid-based propulsion of claim 15 wherein the additional
- 4 step is adjusting the dwell angles for the wire coil sets.